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February 26, 1993

HAND DELIVER

Ms. Donna R. Searcy
Secretary
Federal Communications Commission
1919 M Street, N.W.
Washington, DC 20554

Dear Ms. Searcy:

On behalf of Capital Cities/ABC, Inc., transmitted herewith for filing with the Commission are an original and five copies of its Comments in PR Docket No. 92-235.

If there are any questions in connection with the foregoing, please contact the undersigned.

Sincerely yours,

Roger Goodspeed

RG/ak
Enclosures

Fax (212) 456 6202

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of	)	
	)	
Replacement of Part 90 by Part 88 to Revise the Private Land Mobile Radio Services and Modify the Policies Governing Them	)	PR Docket No. 92-235

COMMENTS OF CAPITAL CITIES/ABC, INC.

Roger Goodspeed
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Counsel for Capital Cities/ABC, Inc.

Joseph A. Nuzzo
RF Systems Engineer
Broadcast Operations & Engineering

February 26, 1993

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

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Replacement of Part 90 by Part 88 to Revise the Private Land Mobile Radio Services and Modify the Policies Governing Them	)	PR Docket No. 92-235

To: The Commission

COMMENTS OF CAPITAL CITIES/ABC, INC.

Capital Cities/ABC, Inc. ("Capital Cities/ABC") submits these Comments in response to the Commission's Notice of Proposed Rulemaking ("Notice"), released November 6, 1992, concerning the replacement of Part 90 by new Part 88 to promote more efficient use of the frequency bands allocated to the private land mobile radio ("PLMR") services.

Introduction

Capital Cities/ABC is the owner and operator of eight television stations, nineteen radio stations and the ABC Television and Radio Networks, among other mass media and mass-media related enterprises. Our interest in this proceeding is twofold.

First, we have a strong interest in any new scheme directed to promoting more efficient use of existing PLMR frequencies because such improvements will reduce the incentive of PLMR users to expand into areas of the spectrum allocated for broadcast purposes. Capital Cities/ABC has consistently taken the position that no broadcast or broadcast auxiliary frequencies can be spared for other uses.

Second, in connection with its broadcast and other operations, Capital Cities/ABC operates several small PLMR systems for communications relating to security and building services. In addition, we occasionally use itinerant PLMR frequencies as backup communications channels for newsgathering purposes when exigencies do not allow time for coordination of broadcast auxiliary frequencies. Thus an efficient and stable allocation and administration of PLMR frequencies is of direct, practical interest to Capital Cities/ABC.

Capital Cities/ABC, therefore, supports the Commission's goal to develop a regulatory scheme that increases channel capacity for PLMR users. Our concern is

Reduced Channel Spacing

In the Notice, the Commission seeks comment on the proposed new efficiency standards for PLMR to be achieved by reducing channel spacing to 6.25 kHz or less. As the attached Engineering Statement of Joseph A. Nuzzo demonstrates, it is, at best, unclear whether technology exists now -- or can reasonably be expected to become available in the near future -- that can achieve the channel separation that is central to the new regulatory scheme, particularly without undue interference from co-located adjacent-channel users. Plainly, were the available technology found wanting after adoption of the proposed regulations, more inquiry and rulemaking would be required, further delaying the very improvements sought to be achieved in this proceeding.

As the Engineering Statement points out, the commenting manufacturers (PR Docket No. 91-170) fail to make a persuasive showing that they have workable solutions to the serious interference problems raised by the proposed standards. The one manufacturer that addresses the technical problems has not supplied test data taken under real-life conditions -- such as PLMR users face in major cities -- showing that proposed equipment can operate without undue interference in the presence of co-located adjacent-channel users operating at different power levels. Mr. Nuzzo -- an engineer with extensive experience under such crowded RF conditions -- is of the view that there is no filtering

technology available today that can achieve signal separation required for the proposed reduced channel spacing. Because of the doubts that existing equipment can work properly in the new scheme, further technological development and testing is needed to allow such doubts to be fully resolved before the proposed scheme is finalized.

We therefore urge the Commission to require sufficient review now -- before any transition period begins -- to ensure that the proposed PLMR spectrum allocation will work in the real world. Ideally, a technical committee should be formed to develop industry standards, identify any areas where equipment performance presently falls short of those standards, and craft workable solutions. At the very least, the Commission should require manufacturers to submit more detailed presentations on their proposed technology and its performance under field conditions in major cities where the most difficult site restrictions and interference conditions apply.

The Commission's goals of increasing PLMR channel capacity and promoting more efficient use of those channels -- goals that Capital Cities/ABC fully endorses -- can only be realized by working within practical technological limits. As the Engineering Statement shows, those limits, particularly as they exist in intense RF environments, may render the

Conclusion

For the reasons stated, Capital Cities/ABC urges that the Commission, before adopting the regulatory scheme set forth in the Notice, require sufficient review of existing and developing technology to ensure that the evident technical problems raised by the proposed reduced PLMR channel spacing are resolved under real-life conditions.

Respectfully submitted,

By: 

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Assistant General Attorney,
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February 26, 1993

ABC Broadcast Operations & Engineering 47 West 66 Street New York NY 10023 (212) 887 7777

ENGINEERING STATEMENT OF JOSEPH A. NUZZO IN CONNECTION WITH COMMENTS OF CAPITAL CITIES\ABC, Inc. REVISION OF PRIVATE LAND MOBILE RADIO SERVICES PR DOCKET 92-235

I am an RF Systems Engineer with Broadcast Operations and Engineering of American Broadcasting Companies, Inc., a wholly owned subsidiary of Capital Cities\ABC Inc., with offices located in New York City. My education and experience are a matter of record with the Federal Communications Commission. I have had 13 years experience working closely with communications radio systems.

This statement has been prepared for filing in connection with the Comments of Capital Cities\ABC, Inc., in response to the FCC's Notice of Proposed Rule Making (NPRM) into rules regarding the Private Land Mobile Radio Services.

I. OVERVIEW

Choosing the proper technology, to allow a smooth transition from the existing allocations is important. This

necessary to design a system available? If they are unavailable, do we have the resources to comply? Can this technology be implemented within the time constraints imposed on us? Can the chosen method of modulation be applied from 20 Mhz - 1 Ghz?

I have read comments from the following companies: Motorola, AT&T, GE Ericsson, and E.F. Johnson. Motorola seemed to be the only company that focused heavily on the technical aspects of the problem. Comments of the other manufactuers gave few technical details.

The future system Motorola (Project 25) discusses (in Comments on NOI PR Docket 91-170) has its drawbacks. Tolerances of components with linear modulation are critical. At the present time, technology doesn't allow for high linearity power amplifiers. This modulation scheme is also susceptible to co-channel interference. It is my belief that Motorola is at the present time testing this product (Astro). I have physically seen this product at a local trade show. This radio does utilize less bandwidth, but it is still susceptible to some of the same problems conventional systems experience. If this is the route that is under consideration we should be testing this system with an adjacent channel user co-located on the same site. Proper desense measurements need to be taken, along with different power levels. Measurements shown in the comments did not focus on different relative power levels. Further research is needed.

III. RELEVANT EXPERIENCE

This past year, I was a member of the Interference Subcommittee and the Broadcast Operations Coordinating Authority (BOCA), the recognized frequency coordinator for the Broadcast Auxiliary Service for the 1992 Political Conventions. My assignments involved creating a database, assigning channels in both convention cities and resolving interference issues as they surfaced. All broadcasters planning to attend either convention needed to supply me with the proper data regarding the systems they proposed to use. Close coordination with non-broadcast spectrum users was also critical due to shared spectrum usage and mutual interference problems. Existing databases were upgraded to show new frequency assignments if they were available. Power levels, antenna gain, and system location were included in this database. This database included frequencies from 30 MHz to 42 GHz. UHF TV channels were allocated for use in both New York and Houston since there wasn't enough spectrum available to accommodate all the media attending from all over the world. Each channel was cut up into 25 KHz increments and assignments were made. We needed to pay special attention with regards to adjacent channel use. Transmitter and receiver locations were extremely important. I quickly was running out of spectrum when I started to take into account co-located systems. In some instances I started to be involved in someone elses engineering and design.

Filters that exist today don't allow for this type of selectivity. Crystal filters are not available in all bands. Conventional systems spaced 12.5 Khz can not coexist on the same site without mutual desensing. The real world doesn't now allow control of where the adjacent channel user will install his or her system.

IV. CONCLUSION

I understand that industry pressure on Land Mobile Spectrum has reached a critical point and another alternative must